

Notice of Allowability

Application No.

10/629,739

Examiner

Christopher Onuaku

Applicant(s)

YAMASHITA, KOICHIRO

Art Unit

2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to ____.
2. ☒ The allowed claim(s) is/are 1-29 (now renumbered 1-19, 21, 23-28, 22, 20&29, respectively).
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date 7/30/03
- ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
- ☐ Notice of Informal Patent Application
- ☒ Interview Summary (PTO-413), Paper No./Mail Date 12/19/07
- ☒ Examiner's Amendment/Comment
- ☒ Examiner's Statement of Reasons for Allowance
- ☐ Other ____.

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

2. Authorization for this examiner's amendment was given in a telephone interview with Harry J. Staas on 12/19/07.

3. The application has been amended as follows:

In the Claims:

In claim 21,

line 1, after "computer readable medium", "comprising" has been deleted and -- selected from one of magnetic storage media and optical storage media, and encoded with -- added.

In claim 27,

line 1, after "computer readable medium", "comprising" has been deleted and -- selected from one of magnetic storage media and optical storage media, and encoded with -- has been added;

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line 2, after "execution of", "the" has been deleted and -- a -- has been added;

line 2, after "method", "of claim 20" has been deleted, and -- for: interpolating time information by counting up a number of frames from a first frame up to a second frame, the first frame having time information and appearing toward a positive direction of a time axis from a predetermined intermediate seek position in the data stream, with the second frame not having time information and appearing after a key frame, the key frame appearing toward the positive direction of the time axis from the intermediate seek position, and interpolating the time information for the key frame based on the time information of the first frame and the counted number of frames -- has been added.

In claim 28,

line 1, after "computer readable medium", "comprising" has been deleted and -- selected from one of magnetic storage media and optical storage media, and encoded with a -- has been added;

line 2, after "computer to control", "the operation of the apparatus of claim 1" has been deleted, and -- : a time information interpolation processing unit to count a number of frames from a first frame up to a second frame, and to interpolate time information for a key frame based on time information of the first frame and the counted number of frames, and a decoding unit to decode and output the moving picture data based on the interpolated time information of the key frame, wherein the first frame appears toward a positive direction of a time axis from a predetermined

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intermediate seek position in the data stream, and the second frame appears after the key frame, with the key frame not having time information and appearing toward the positive direction of the time axis from the intermediate seek position. -- has been added.

In claim 29,

line 1, after "computer readable medium", "comprising" has been deleted and -- selected from one of magnetic storage media and optical storage media, and encoded with a -- has been added;

line 2, after "computer to control", "the operation of the apparatus of claim 22" has been deleted, and -- : an interpolation processing unit to interpolate a predetermined time information for a key frame, of the data stream, based on time information of a reference frame, of the data stream and different from the key frame, and a counted number of frames between the reference frame and another frame of the data stream; and a decoding processing unit to output decoded video frames of the data stream, for an intermediate seek position of the data stream, based on the interpolated time information for the key frame. -- has been added.

In claim 30, claim 30 has been canceled.

Allowable Subject Matter

4. Claims 1-29 are allowable over the prior art of record.
5. The following is a statement of reasons for the indication of allowable subject matter:

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Regarding claim 1, the invention relates to a moving picture reproduction device, including an MPEG moving picture reproducing module.

The closest references Sawabe et al (US 6,108,486) disclose an information record medium such as an optical disk of a high recording density type, which is capable of recording information such as video information, audio information and the like at a high density, and which is represented by a DVD, and Owa et al (US 6,564,009) teach an optical disk apparatus for recording and/or reproducing data (such as video signal data and audio signal data) onto and/or from an optical disk which utilizes a laser beam having a wavelength of 680 (nm) or less and a lens system having a numerical aperture (NA) of 0.7 or more and arranged to have a working distance of 569 μm or less so as to enable a relatively large amount of data to be recorded onto the optical disk.

Sawabe et al and Owa et al fail to explicitly disclose a moving picture reproducing device for reproducing an inputted data stream of moving picture data comprised of a plurality of frames, where the reproducing device further comprises a time information interpolation processing unit to count a number of frames from a first frame up to a second frame, and to interpolate time information for a key frame based on time information of the first frame and the counted number of frames, wherein the first frame appears toward a positive direction of a time axis from a predetermined intermediate seek position in the data stream, and the second frame appears after the key frame, with the key frame not having time information and appearing toward the positive direction of the time axis from the intermediate seek position.

Regarding claim 20, the invention relates to a moving picture reproduction device, including an MPEG moving picture reproducing module.

The closest references Sawabe et al (US 6,108,486) disclose an information record medium such as an optical disk of a high recording density type, which is capable of recording information such as video information, audio information and the like at a high density, and which is represented by a DVD, and Owa et al (US 6,564,009) teach an optical disk apparatus for recording and/or reproducing data (such as video signal data and audio signal data) onto and/or from an optical disk which utilizes a laser beam having a wavelength of 680 (nm) or less and a lens system having a numerical aperture (NA) of 0.7 or more and arranged to have a working distance of 569 μm or less so as to enable a relatively large amount of data to be recorded onto the optical disk.

Sawabe et al and Owa et al fail to explicitly disclose a moving picture reproducing method for reproducing an inputted data stream of moving picture data comprised of a plurality of frames, where the reproducing method further comprises interpolating time information by counting up a number of frames from a first frame up to a second frame, the first frame having time information and appearing toward a positive direction of a time axis from a predetermined intermediate seek position in the data stream, with the second frame not having time information and appearing after a key frame, the key frame appearing toward the positive direction of the time axis from the

intermediate seek position, and interpolating the time information for the key frame based on the time information of the first frame and the counted number of frames.

Regarding claim 21, the invention relates to a moving picture reproduction device, including an MPEG moving picture reproducing module.

The closest references Sawabe et al (US 6,108,486) disclose an information record medium such as an optical disk of a high recording density type, which is capable of recording information such as video information, audio information and the like at a high density, and which is represented by a DVD, and Owa et al (US 6,564,009) teach an optical disk apparatus for recording and/or reproducing data (such as video signal data and audio signal data) onto and/or from an optical disk which utilizes a laser beam having a wavelength of 680 (nm) or less and a lens system having a numerical aperture (NA) of 0.7 or more and arranged to have a working distance of 569 um or less so as to enable a relatively large amount of data to be recorded onto the optical disk.

Sawabe et al and Owa et al fail to explicitly disclose a computer readable medium selected from one of magnetic storage media and optical storage media and encoded with a computer program controlling a computer to execute a moving picture reproduction operation for an inputted data stream of moving picture data comprised of a plurality of frames, the moving picture reproduction process further comprising interpolating time information by counting up a number of frames from a first frame up to a second frame, the first frame having time information and appearing first toward a

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positive direction of a time axis from a predetermined intermediate seek position in the data stream, with the second frame not having time information and appearing after a key frame, the key frame appearing toward the positive direction of the time axis from the intermediate seek position, and interpolating the time information for the key frame based on the time information of the first frame and the counted number of frames.

Regarding claim 22, the invention relates to a moving picture reproduction device, including an MPEG moving picture reproducing module.

The closest references Sawabe et al (US 6,108,486) disclose an information record medium such as an optical disk of a high recording density type, which is capable of recording information such as video information, audio information and the like at a high density, and which is represented by a DVD, and Owa et al (US 6,564,009) teach an optical disk apparatus for recording and/or reproducing data (such as video signal data and audio signal data) onto and/or from an optical disk which utilizes a laser beam having a wavelength of 680 (nm) or less and a lens system having a numerical aperture (NA) of 0.7 or more and arranged to have a working distance of 569 μm or less so as to enable a relatively large amount of data to be recorded onto the optical disk.

Sawabe et al and Owa et al fail to explicitly disclose a reproducing device for a data stream, where the reproducing device further comprises an interpolation processing unit to interpolate a predetermined time information for a key frame, of the data stream, based on time information of a reference frame, of the data stream and

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different from the key frame, and a counted number of frames between the reference frame and another frame of the data stream, and a decoding processing unit to output decoded video frames of the data stream, for an intermediate seek position of the data stream, based on the interpolated time information for the key frame

Regarding claim 27, the invention relates to a moving picture reproduction device, including an MPEG moving picture reproducing module.

The closest references Sawabe et al (US 6,108,486) disclose an information record medium such as an optical disk of a high recording density type, which is capable of recording information such as video information, audio information and the like at a high density, and which is represented by a DVD, and Owa et al (US 6,564,009) teach an optical disk apparatus for recording and/or reproducing data (such as video signal data and audio signal data) onto and/or from an optical disk which utilizes a laser beam having a wavelength of 680 (nm) or less and a lens system having a numerical aperture (NA) of 0.7 or more and arranged to have a working distance of 569 μm or less so as to enable a relatively large amount of data to be recorded onto the optical disk.

Sawabe et al and Owa et al fail to explicitly disclose a computer readable medium selected from one of magnetic storage media and optical storage media and encoded with a computer readable code controlling a computer to control the execution of a method for interpolating time information by counting up a number of frames from a first frame up to a second frame, the first frame having time information and appearing

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first toward a positive direction of a time axis from a predetermined intermediate seek position in the data stream, with the second frame not having time information and appearing after a key frame, the key frame appearing toward the positive direction of the time axis from the intermediate seek position, and interpolating the time information for the key frame based on the time information of the first frame and the counted number of frames.

Regarding claim 28, the invention relates to a moving picture reproduction device, including an MPEG moving picture reproducing module.

The closest references Sawabe et al (US 6,108,486) disclose an information record medium such as an optical disk of a high recording density type, which is capable of recording information such as video information, audio information and the like at a high density, and which is represented by a DVD, and Owa et al (US 6,564,009) teach an optical disk apparatus for recording and/or reproducing data (such as video signal data and audio signal data) onto and/or from an optical disk which utilizes a laser beam having a wavelength of 680 (nm) or less and a lens system having a numerical aperture (NA) of 0.7 or more and arranged to have a working distance of 569 um or less so as to enable a relatively large amount of data to be recorded onto the optical disk.

Sawabe et al and Owa et al fail to explicitly disclose a computer readable medium selected from one of magnetic storage media and optical storage media and encoded with a computer readable code controlling a computer to control a time

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information interpolation processing unit to count a number of frames from a first frame up to a second frame, and to interpolate time information for a key frame based on time information of the first frame and the counted number of frames, wherein the first frame appears toward a positive direction of a time axis from a predetermined intermediate seek position in the data stream, and the second frame appears after the key frame, with the key frame not having time information and appearing toward the positive direction of the time axis from the intermediate seek position.

Regarding claim 29, the invention relates to a moving picture reproduction device, including an MPEG moving picture reproducing module.

The closest references Sawabe et al (US 6,108,486) disclose an information record medium such as an optical disk of a high recording density type, which is capable of recording information such as video information, audio information and the like at a high density, and which is represented by a DVD, and Owa et al (US 6,564,009) teach an optical disk apparatus for recording and/or reproducing data (such as video signal data and audio signal data) onto and/or from an optical disk which utilizes a laser beam having a wavelength of 680 (nm) or less and a lens system having a numerical aperture (NA) of 0.7 or more and arranged to have a working distance of 569 um or less so as to enable a relatively large amount of data to be recorded onto the optical disk.

Sawabe et al and Owa et al fail to explicitly disclose a computer readable medium selected from one of magnetic storage media and optical storage media and encoded with a computer readable code controlling a computer to control an

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interpolation processing unit to interpolate a predetermined time information for a key frame, of the data stream, based on time information of a reference frame, of the data stream and different from the key frame, and a counted number of frames between the reference frame and another frame of the data stream, and a decoding processing unit to output decoded video frames of the data stream, for an intermediate seek position of the data stream, based on the interpolated time information for the key frame

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ashbey (US 5,636,036) teaches an interactive video system which includes a videodisc player, a joystick, a framestore, a display and a control device for controlling functions such as reading of frames from the framestore to the display, wherein the videodisc player stores several sequences of moving pictures with the frames of the sequences interleaved so that changes can quickly be made from one sequence to another.

Yuen et al (US 6,701,060) teach means and method for facilitating management, storage, and retrieval of programs on a cassette of magnetic tape.

Azadegan et al (US 5,819,004) teach video encoding systems such as MPEG video encoders, including video encoding systems in which a user can manually control the quality of the encoded video.

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Onuaku whose telephone number is 571-272-7379. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Groody can be reached on 571-272-7950. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


COO

12/20/07.


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